

**PRELIMINARY CLOSE OUT REPORT  
FOR THE  
INTERSTATE LEAD COMPANY  
SUPERFUND SITE**

Leeds, Jefferson County, Alabama

PREPARED BY:  
U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA, GEORGIA

September 2014



## **I. Introduction**

This Preliminary Close Out Report (PCOR) documents the completion of all physical remedial construction activities planned for the Interstate Lead Company (ILCO) Superfund Site (Site). This PCOR was prepared in accordance with Close Out Procedures for National Priorities List (NPL) Sites (OSWER Directive 9320.2-22, May 2011). The United State Environmental Protection Agency (EPA) conducted a final inspection of the Site on August 29, 2013, and determined that all components of the remedy were constructed in accordance with the EPA-approved remedial design plans and specifications. No additional remedial construction is anticipated at the Site.

To ensure that the remedy remains protective in accordance with the Records of Decision (ROD) for Operable Units (OUs) 1, 2 and 3, the Site operation and maintenance (O&M), performance monitoring will be conducted in accordance with remedial design plans and specifications. In addition, Five-Year Reviews will be conducted as required. Institutional Controls (ICs) have been implemented and will be maintained by the Potential Responsible Party (PRP) group and enforced by the EPA and the Alabama Department of Environmental Management (ADEM).

## **II. Summary of Site Conditions**

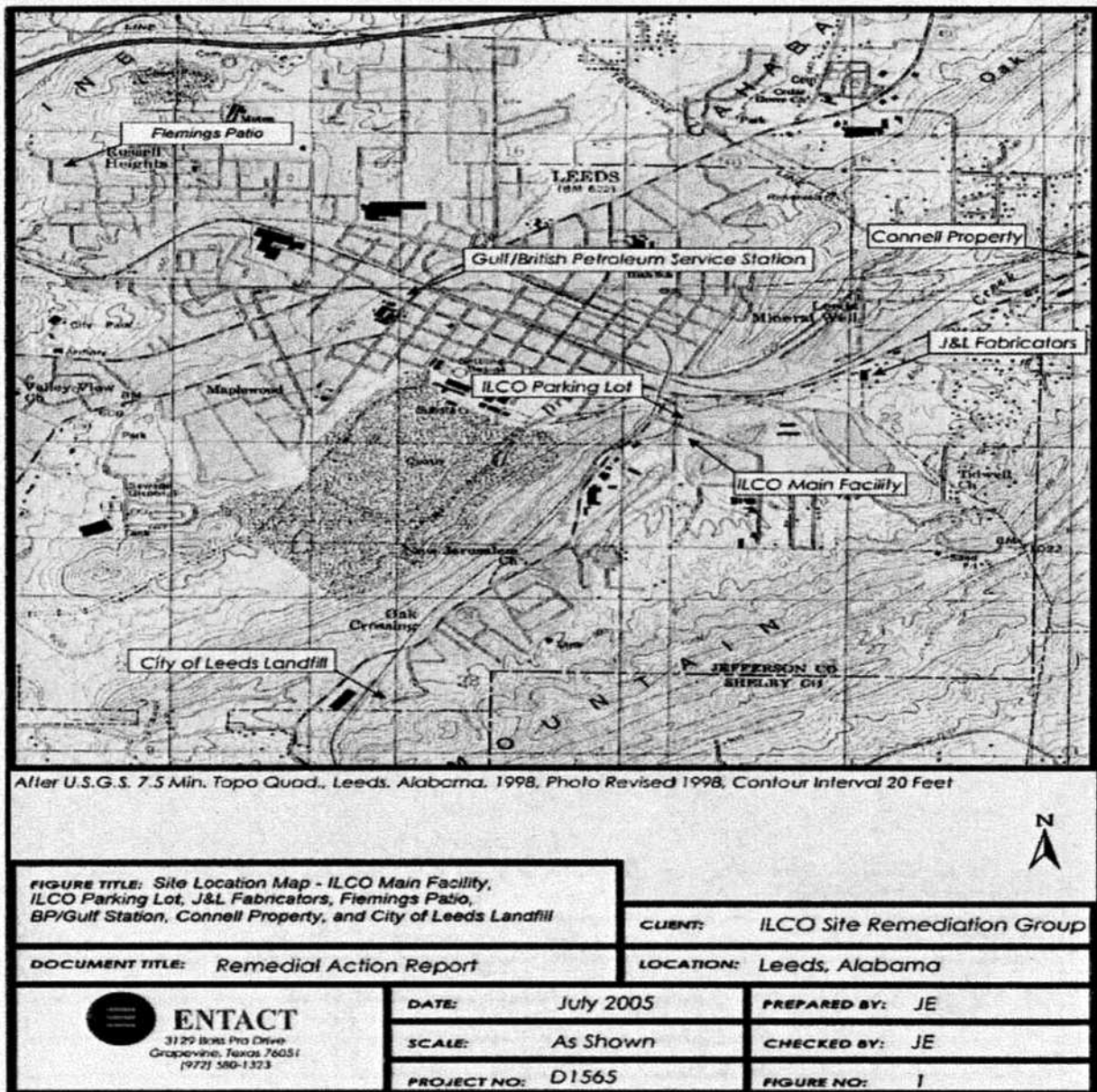
The ILCO Site is located in Leeds, Jefferson County Alabama, about 15 miles east of Birmingham, Alabama. The Site includes the ILCO Main Facility, currently located at 8551 Borden Avenue and seven satellite sites located in and around the Site that received lead-impacted waste from the Main Facility. The Main Facility occupies approximately 11.5 acres, most of which was owned by ILCO. The area is primarily industrial with few residences within a half-mile radius from the Site.

ILCO operated a secondary lead smelting and lead battery recycling business from around 1970 to 1992 at the ILCO Main Facility. ILCO manufactured and recycled lead alloys through the smelting and refining of lead-bearing scrap materials. The primary materials reclaimed by ILCO were spent lead-acid automobile and industrial batteries. The spent batteries were cracked open and the lead plates and lead oxides were smelted in a blast furnace. Furnace slag, produced as a by-product was a hazardous waste due to its lead content. EPA and ADEM conducted several investigations which revealed contamination of soil, groundwater, surface water, and sediment with metals and hydrocarbons. The primary contaminant at the ILCO Site was lead, with elevated levels of metals including antimony, arsenic, beryllium, cadmium, chromium, copper, manganese, and nickel. The ILCO Site was proposed to the NPL on September 18, 1985 (50 FR 37950) and listed on the NPL on June 10, 1986 (51 FR 21054).

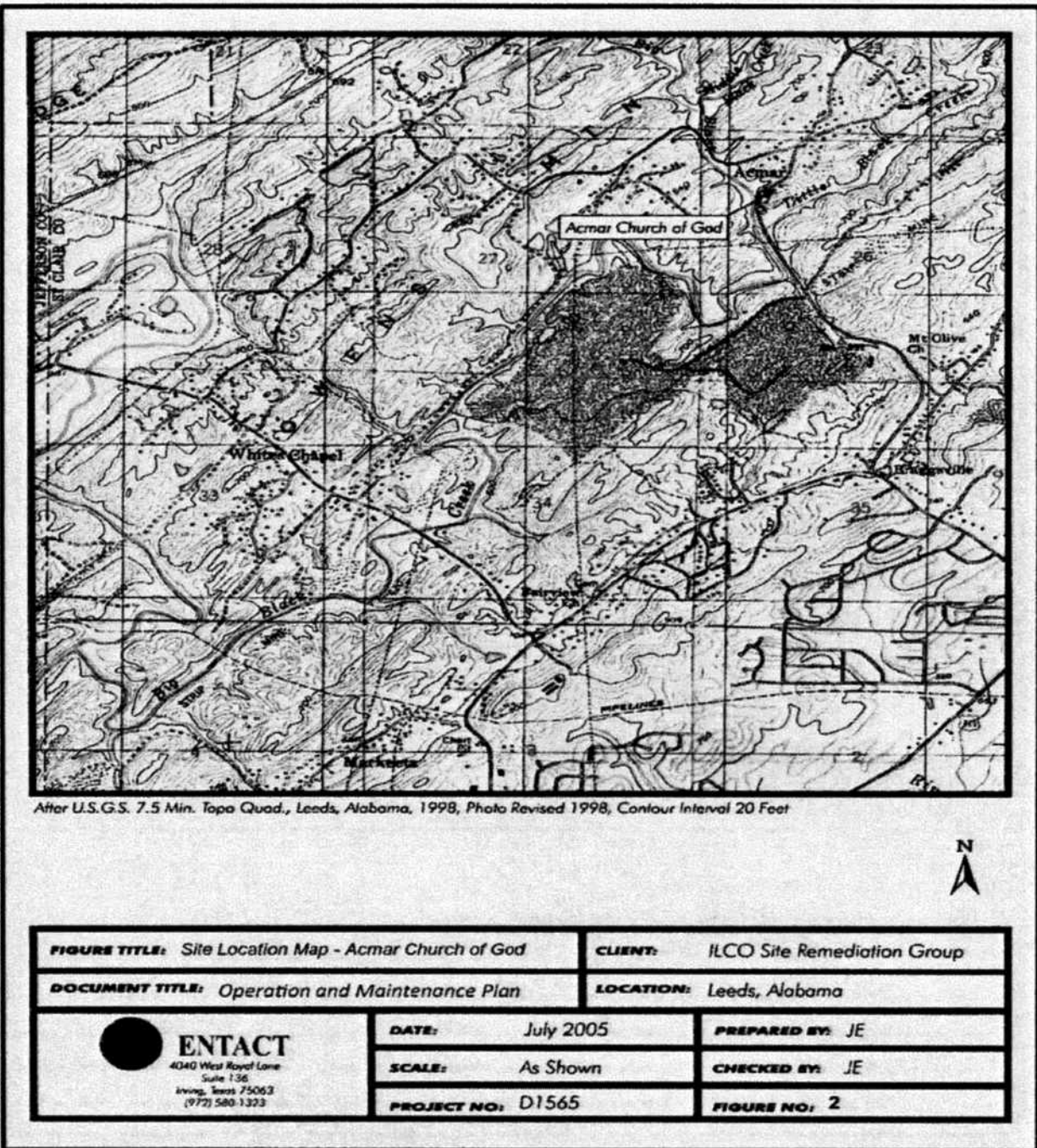
The ILCO site is divided into three Operable Units (OUs): OU-1 which addresses soil, sediment and groundwater contamination at seven satellite sites; the Gulf/BP Service Station, City of Leeds Municipal Landfill (City of Leeds Landfill); J & L Fabricators, Fleming's Patio, the Connell Property, Acmar Church of God (now the New Life Fellowship Church); and also the ILCO Parking Lot. Figures 1 and 2, Site Location Map and Site Location Map – Acmar Church of God, respectively, presents a topographical map depicting the location of the satellite sites in relation to the ILCO Site. Descriptions of the satellite sites is provided below in Table 1, Satellite Site Descriptions. OU-2 addresses soil and groundwater contamination at the ILCO Main Facility and

groundwater contamination at the ILCO Parking Lot. OU-3 addresses the contamination of surface water, sediment and biota in Dry Creek and the unnamed tributary near the ILCO Main Facility and Parking Lot.

**Figure 1, Site Location Map**



**Figure 2, Site Location Map – Acmar Church of God**



**Table 1, Satellite Site Descriptions**

The Gulf/British Petroleum Service Station	Located in the center of Leeds on U.S. Highway 78. The property is bordered by the Little Cahaba River and a residential trailer park to the northwest. The Leeds Elementary School is located to the southwest across U.S. Highway 78. In 1989 this portion of the Site was conveyed to Joe and Charles Tidmore from Jack and June Martin, who acquired title in 1977 from Gulf Oil Corporation.
City of Leeds Landfill	Located off Dunavant Road at the end of Peach Street southwest of the City of Leeds. There are a few residential properties to the north and hardwood conifer forests to the east, south and west. The City of Leeds has owned this property since 1957.
J&L Fabricators, Inc.,	Located on U.S. Highway 78, east of the City of Leeds, in a small industrial and business complex bordered by low density residential housing to the east, an abandoned shale pit to the south, a heavy industrial complex to the southwest and light industry and businesses to the north. Adjacent to this portion of the Site to the west are two homes and a trailer. This portion of the Site has been owned by John Leonard Love since 1987. Prior owners include Charles Rider, Sr., Clara Mae Rider, and Robert and Kathleen Vaughan.
Fleming's Patio	A restaurant and bar located on Alaska Avenue off Erie Street on the western periphery of the City of Leeds. A house trailer located on the northeast side of this portion of the Site is occupied by the proprietor of the restaurant and his family. A title report reflects that this portion of the Site is owned by William and Annie Bell Fleming.
Connell Property	Located in St. Clair County, east of Leeds and comprises approximately 1.4 acres of property. The property contains two houses which are occupied by the Connell family. There is low-density residential property to the north and east and a mixed hardwood-conifer forest to the south and west. This portion of the Site has been owned by Frank and Joyce Connell since the 1970's.
Acmar Church of God	Located approximately five and a half miles northeast of the City of Leeds, in the rural community of Moody, off Acmar Road in an area surrounded by natural vegetation and trees. Records in the tax assessor's office for St. Clair County indicate that the Church of God of Prophecy is the owner of this property.
The ILCO Parking Lot	Located across from the ILCO Facility on the other side of Borden Avenue. At one time the ILCO Parking Lot was a low area but was subsequently filled in with lead contaminated blast slag, battery casings and other debris. From 1963 until 1985, this property was owned by the City of Leeds and leased to M&B Metal Products Company (M&B). In August of 1985, the City of Leeds conveyed the property to M&B. The following month, in September of 1985, M&B conveyed this property to ILCO Trucking.

## **II.B EPA Removal Actions 1984-2004**

### **The Acmar Church of God Removal**

In February 1984, ADEM requested EPA's assistance to address the hazardous wastes that had been dumped on property belonging to the Acmar Church of God in Moody, Alabama. When the Church was expanding its parking lot, it needed fill material. An ILCO employee who was a member of the Church arranged for furnace slag, broken battery cases, and related wastes from ILCO's operations to be used as fill material.

Analytical results from soil samples collected from the Church revealed high concentrations of lead ranging from 88,000 to 100,000 mg/kg. EPA determined that the Site posed an imminent and substantial danger to public health and the environment due to a release of hazardous substances and that removal activities were warranted. EPA and the State of Alabama requested ILCO to undertake the appropriate removal activities. ILCO refused, offering to dig up the hazardous material and bring it back to the ILCO Facility.

In April 1984, EPA began work at the church. Approximately 5000 cubic yards of contaminated soil and debris were excavated and transported to a hazardous waste disposal facility. By August 1984, the removal activities were complete and response costs in excess of \$673,000 were incurred.

### **Second Acmar Church of God Removal**

From February 11, 2004 to March 30, 2004, EPA contractors identified, recovered, shredded and disposed approximately 246 tons of tires that were located on the hillside and in a ravine near the Acmar Church of God property. The tires were not associated with the PRP. In order to properly sample the soil beneath the property, the tires were removed and disposed in the ONYX -Cedar Hill Landfill.

After the tires were removed, EPA allowed the PRP group access to the Site and sample areas. This sampling event required the PRP group to identify and address lead contaminated soils above 300 ppm that remained on the Site. Concerns were raised by ADEM from information obtained during a previous assessment

### **Removal Activities at the ILCO Facility**

When ILCO shut down in March of 1992, Region 4's Emergency Response and Removal Branch responded to mitigate the immediate threats to public health and the environment posed by the abandoned ILCO Facility. Approximately 5,368 tons of lead contaminated slag were found stored in different areas in and around the ILCO Facility, which were removed to a hazardous waste landfill, in addition to crushed battery chips, baghouse dust, and other lead contaminated debris. In order to control contaminated surface water run-off, the waste water treatment system on-site was repaired and approximately 200,000 gallons of lead contaminated sludge in the primary sedimentation tank was pumped out and stabilized. Portions of the battery cracking building and furnace building were demolished due to extreme lead contamination and deterioration from constant exposure to acid. An extensive surface and subsurface soil sampling investigation was undertaken revealing elevated total lead concentrations in all surficial soil samples as high as 68,700 mg/kg and in subsurface soil samples with concentrations typically decreasing with depth. Based upon this data, several large areas of contaminated soils were excavated and approximately 75,000 cubic yards were stockpiled

on-site. Acid from several impoundments was collected and treated in the waste water treatment system. A concrete entombment containing lead contaminated slag was discovered cracked and in a deteriorating condition. The contents of the vault were removed and an additional 40,000 cubic yards of waste was stockpiled.

## **II. C Summary of Records of Decision for the Site**

The following provides a summary of the decision documents including the remedial action objectives for each OU at the Site.

### **OU-1: The Seven ILCO Satellites**

EPA issued a Proposed Cleanup Plan and, after a public comment period, a ROD for OU-1. The ROD, which set forth the selected remedy for the seven ILCO satellite sites, was signed on September 29, 1991. The ROD was amended in 1994 and 1996 to change the location for soil disposal. Major remedial components selected in the ROD for the City of Leeds Landfill specified construction of a multilayer compacted clay and geo membrane cap to cover areas with soil lead concentrations exceeding 300 milligrams per kilogram (mg/kg); ICs consisting of access and deed restrictions to protect the integrity of the cap system; extraction, chemical/physical treatment and discharge of treated groundwater to an onsite surface water outfall and groundwater monitoring. For the Gulf/BP Service Station, the OU-1 ROD selected excavation and disposal of soil exceeding 300 mg/kg of lead, excavation and disposal of sediment exceeding 50 mg/kg of lead from the adjacent stream, and groundwater monitoring as the remedy.

OU-1 ROD, as amended, selected remedial actions and established cleanup levels that are consistent with the expected future land use of the sites and unrestricted use of the groundwater. Remedial Action Objectives (RAOs) for OU-1 were provided in the Statement of Work for the Remedial Design/Remedial Action Work Plan to address risks associated with soil and groundwater and were selected in order to ensure protection of human health and the environment:

- Prevent or mitigate the release of hazardous substances to groundwater, surface water, and sediment;
- Eliminate or reduce the potential risks to human health associated with direct contact, ingestion, or inhalation of hazardous substances;
- Eliminate or reduce the potential threat to human health and the environment associated with potential migration of hazardous substances in groundwater, surface and subsurface soil, and sediment;
- Reduce concentrations of hazardous substances in groundwater, surface and subsurface soil, and sediment to levels specified by EPA's performance standards;
- Restore contaminated groundwater if technically practicable;
- Limit, to the extent feasible, the transfer of sediment contamination to biota; and
- Reduce the volume, toxicity, and mobility of hazardous substances.

#### OU-2: ILCO Main Facility and Parking Lot Groundwater

The improper disposal of battery casings and battery acid resulted in contamination of the soil and groundwater at the ILCO Main Facility and Parking Lot. During the remedial investigation, elevated levels of lead and other metals were found in the soil and groundwater. In May 1994, EPA completed the RI/FS for the ILCO Main Facility. In the 1994 Baseline Risk Assessment, EPA evaluated the soil and groundwater at the ILCO Main Facility and determined that the COCs posed an unacceptable risk to human health and the environment. EPA selected the OU-2 soil and groundwater remedy in the September 1994 OU-2 ROD.

The major components of the soil remedy for OU-2, as amended in the 1996 ROD Amendment, included excavating contaminated soil at the ILCO Main Facility for treatment by solidification/stabilization, and managing contaminated debris by either recycling, treatment by solidification/stabilization, and/or disposal. It also required shipment and disposal of treated material off-site at a permitted RCRA Subtitle D (or state approved) landfill. Backfilling of excavated areas, re-vegetation, air monitoring, and ICs were also required. The ILCO Main Facility and Parking Lot groundwater remedy was selected in the 1994 OU-2 ROD and was not amended by the 1996 ROD Amendment.

The 1994 OU-2 ROD selected groundwater pumping and treatment using precipitation/flocculation and discharge of treated water to the unnamed tributary. The ROD also specified ICs be implemented to prevent the use of groundwater as a potable source and prevent future residential land use at the ILCO Main Facility. The ICs and soil remedy components previously selected for the ILCO Main Facility and Parking Lot in the 1994 ROD, as amended, are not modified by the 2012 amended ROD.

The OU-2 ROD, as amended, specified the following RAOs for the OU-2 groundwater:

- Prevent direct contact with and/or ingestion of soils, slag, and other material containing COCs at concentrations above health-based levels;
- Prevent further contamination of groundwater through leaching of contaminants from soil;
- Prevent human exposure to contaminated groundwater which contains any site related contaminants above either regulatory or risk-based levels;
- Protect uncontaminated groundwater by minimizing continued migration of the existing plume of contaminated groundwater; and
- Restore contaminated groundwater to its former beneficial use (i.e., an existing or potential source of potable water).

The RAOs for the OU-2 amended remedy to address the Main Facility and Parking Lot Groundwater are:

- Prevent leaching of contaminants from soil to groundwater; and

- Restore groundwater to beneficial use.

#### OU-3 Dry Creek and Unnamed Tributary

In April 1999, EPA completed the RI/FS for OU-3, Dry Creek and the unnamed tributary, adjacent to the ILCO Main Facility and Parking Lot. In 1994, EPA collected surface water, sediment, and biota samples from the unnamed tributary, Dry Creek, and the Little Cahaba River and analyzed them for lead and other chemicals. EPA determined the sediment and biota posed an unacceptable risk to human health and the environment and selected the remedial actions in the OU-3 ROD on September 29, 1995. The remedial goals of the OU-3 remedy are to limit exposure to contaminated sediment and to limit ingestion of potentially contaminated fish tissue. Major remedial components selected in the ROD included monitored natural recovery of the contaminated sediment; issuing a fishing advisory; posting signs warning the public of the presence of contaminated sediment along Dry Creek and the unnamed tributary; and annual surface water, sediment, and biota monitoring.

The 1995 OU-3 ROD selected remedial actions and established cleanup levels that are consistent with the future use of the streams but did not specify RAOs. The 2012 amended ROD includes the following RAOs to address risks associated with surface water, sediment, and biota and ensure protection of human health and the environment:

- Prevent incidental ingestion of and dermal contact with sediment exceeding health-based cleanup goals;
- Prevent ingestion of surface water that exceeds health-based cleanup goals by recreational users; and
- Prevent ingestion of fish exceeding health-based consumption levels.

#### **Amended Record of Decision (AROD) – 2012**

The only OU-1 remedies that were amended in the 2012 document were the soil and groundwater remedies for the City of Leeds Landfill and the Gulf/BP Service Station. The amended remedial action for these sites was “No Action”. The soil and groundwater at these sites no longer pose a hazard, making additional cleanup action unnecessary.

The amended remedial action for the OU-2 ILCO Main Facility and Parking Lot addresses the threats posed by the remaining contamination in the OU-2 groundwater. The remedial action for the soil, which included excavation and off-site disposal at an approved facility, has been completed and is not changed by the 2012 amendment. The amended remedial action for the OU-2 groundwater involves In Situ Precipitation, which replaced the previously selected pump and treatment remedy.

The major components of the selected remedy for this remedial action include:

- Injection of reagent into the soil in the former battery breaker area at the Main Facility to increase the pH and thus reduce the solubility of metals in the subsurface soil. The subsurface soil contains a diffuse source of acid which lowers the pH, leaches metals from the subsurface soil, and provides a source of metal s contamination to groundwater via

rainwater percolation. This results in levels of manganese, nickel, beryllium, and cadmium that exceed remedial goals in the onsite groundwater;

- Monitoring of the contaminants of concern (COCs) in the groundwater to verify that the groundwater pH is neutralized and that groundwater meets remedial goals; and
- ICs until remedial goals are met. This includes, but is not limited to, restricting Groundwater for potable or drinking water uses and maintenance of access controls and warning signs around the ILCO Main Facility Monitoring of the contaminants of concern (COCs) in the groundwater to verify that the groundwater pH is neutralized and that groundwater meets remedial goals.

For OU-3, Dry Creek and the unnamed tributary, the amended remedy for the sediment and surface water is No Action. No additional remedial action is necessary since sampling shows that lead levels in all media no longer pose an unacceptable risk to human health and the environment. As a result, the fish advisory and surface water, sediment, and biota monitoring are no longer necessary.

The 2012 Amended ROD and the supporting documents that form the basis for the remedial decisions for the ILCO Site are contained in the Administrative Record (AR) for the Site, in accordance with National Contingency Plan (NCP) § 300.825(a)(2). The AR is located in the Information Repository at the Leeds Public Library, 8104 Parkway Drive; Leeds, Alabama 35094 and EPA Region 4 Library located at 61 Forsyth Street, SW; Atlanta, Georgia 30303. This meets EPA's requirements under §117 of CERCLA and § 300.435(c)(2)(ii) of the NCP.

## **II.D Remedial Action Activities**

The remedial actions at the Site were conducted under the aforementioned decision documents in three phases with EPA participating in pre-final inspections on April 3, 2002 for the satellite sites (OU-1) and the Main Facility (OU-2). In the 2002 pre-final inspection, it was determined that all construction was complete at the satellite sites (OU-1) but additional work was required at OU-2 and possibly at Dry Creek (OU-3). On October 19, 2005, EPA participated in a pre-final inspection on the Main Facility (OU-2) and identified punch list items to be addressed. After the issues were addressed EPA and ADEM approved the final inspection for OU-2 soil on November 29, 2005, for remediation conducted at the Main Facility between January 2000 and November 2005. Additional information on the remedial action activities for OU-1 and OU-2 soil can be found in the September 2006 Remedial Action Report for the site.

### **Remedial Action at Main Facility and Satellite Sites from 2000 - 2005**

Remedial activities were performed at the ILCO Site by the Group and its remedial action contractors, RMT and ENTACT, during the period from January 2000 to November 2005. RMT performed remedial activities at the ILCO Site from January 2000 to July 2001. The remedial activities performed by ENTACT on behalf of the Group during the period from July 2001 to November 2005.

Oversight of remedial activities at the ILCO Main Facility and satellite sites was also performed by EPA, EPA's contractor (Black & Veatch), and ADEM. Leed Environmental, Inc. of Reading, Pennsylvania served as the PRP Group's project coordinator during the completion of remedial activities at the Site.

The approximate tonnage of soil excavated from each satellite site and the main facility during the period from July 2001 to November 2005 are presented in Table 2, Approximate Tonnage of Soil Excavated.

**Table 2, Approximate Tonnage of Soil Excavated**

Site	Jan 2000-July 2001 by RMT	July 2001-Nov 2005 by ENTACT	Approximate Total Tonnage (tons)
<b>OPERABLE UNIT 1</b>			
Flemming's Patio	31,864	19,438	51,302
Conell Property	3,009		3,009
J & L Fabricators	13,010	4,944	17,954
ILCO Parking Lot	68,766	2,452	71,219
Montgomery Oil		997	997
Acmar Church of God	1,064	4,000	5,065
<b>OPERABLE UNIT 2</b>			
Main Facility Soil & Debris	97,118	104,000	201,119
Main Facility Debris	5,409		5,409
<b>TOTAL</b>	<b>220,243</b>	<b>120,855</b>	<b>356,076</b>

#### Final Remedial Action at the Site – 2013

On June 10, 2013, the PRP's contractors mobilized to the Site to implement sodium bicarbonate injections in the soil to increase the pH and thus reduce the solubility of metals in the subsurface soil. The subsurface soil contains a diffuse source of acid which lowers the pH, leaches metals from the subsurface soil, and provides a source of metal s contamination to groundwater via rainwater percolation. This results in levels of manganese, nickel, beryllium, and cadmium that exceed remedial goals in the onsite groundwater. Between June 10 and August 29, 2013, approximately 72 tons of sodium bicarbonate were injected into the soil at approximately 380 locations at the Main Facility in accordance with the 2012 Amended ROD and the Remedial Design/Remedial Action work plan that was approved April 29, 2013.

EPA conducted a final inspection on August 29, 2013, and determined that all components of the selected remedy to address groundwater contamination were constructed at the Site in accordance with the EPA-approved plans and specifications. No additional remedial construction is anticipated at the Site.

#### **II.E Enforcement Actions**

On September 29, 1995, EPA issued special notice letters to 122 of the 216 non-de minimis generator PRPs who were responsible for one million pounds or more of waste at the Site pursuant to CERCLA Section 122(a), invoking a 60-day negotiation period with respect to implementation of the remedy. The remaining non-de minimis PRPs were either defunct with no current mailing address or could not be located by EPA civil investigators. The government reached a numerous settlements however an agreement with twenty generator PRPs each responsible for one million

pounds of waste or more at the ILCO Site has governed most of the PRP work at the Site.

The settlement is embodied in a consent decree which was entered on April 22, 1997 in the United States District Court for the Northern District of Alabama. At that time, the total cost of these remedies was an estimated \$59,440,500. The Group agreed to pay \$1,823,644 of \$16,289,000 in past response costs and all future response costs over \$300,000.

## **II.F Five Year Reviews**

The first Five Year Review (FYR) for the Site was triggered by the start of OU-1 remedial activities in 2001. The next Five Year Review is due by September 30, 2016.

## **II.I OU-1 Long Term Response Action**

From 2008 to 2012, the PRP Group collected six rounds of groundwater sampling prior to startup of the groundwater treatment activity from OU-1. The Long Term Response Action (LTRA) consists of increasing the pH and thus reducing the solubility of metals in the subsurface soil via injection of sodium bicarbonate. Quarterly sampling events to monitor contaminant levels in groundwater have been conducted by the PRP Group since the beginning in the fall of 2013. In addition, chemistry parameters and groundwater levels are monitored on a monthly basis for the first year after the injections. A report documenting the effect of the injection is scheduled to be submitted by the PRP Group to EPA and ADEM by January 2015.

EPA expects contaminant concentrations to continue to decrease as the pH in the soil and groundwater is adjusted in the vicinity of the former battery breaker area at the ILCO Main Facility. The injection of sodium bicarbonate into lower pH soil at the ILCO Main Facility will raise the pH in the soil- and groundwater and allow the metals that exceed remedial goals to precipitate out of the groundwater. The contaminant plume is stable, is within the confines of the Main Facility property boundary, and can be safely addressed by the addition of the sodium bicarbonate solution. The shallow groundwater beneath the ILCO Main Facility, although considered a potential source of drinking water, is neither used for drinking water in the area nor is it expected to be used for drinking. The shallow groundwater is prohibited for potable use by ICs.

Although EPA expects that the need for sodium bicarbonate injections will cease at the end of calendar year 2013, performance monitoring will continue in accordance with the 2012 Amended ROD. The groundwater remedial action objective is to restore the shallow aquifer beneath the Site to beneficial use. If necessary, additional injections may be required by the PRP Group.

## **III. Demonstration of Construction Quality Assurance/Quality Control**

The construction of the selected remedies for OU-1, OU-2 and OU-3 have been conducted in a manner consistent with their respective RODs as amended as well as the remedial design plans and specifications. EPA and ADEM approved and monitored the development and application of quality assurance and quality control (QA/QC) protocols throughout the cleanup. The September 2006 Remedial Action Report for the site contain detailed information on the QA/QC plans, the results of QA/QC implementation, and an analysis and engineering determination that the construction QA/QC objectives were met.

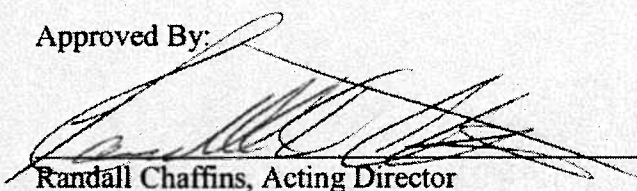
#### **IV. Schedule of Activities for Site Completion**

The activities that remain to be completed for the Site include: implementing site-wide ICs, continuing LTRA O&M for groundwater on the Main Facility, performing statutory Five-Year Reviews, preparing the Final Close Out Report (FCOR), and deleting the Site from the NPL. These activities are anticipated to be completed according to the schedule shown below on Table 3, Chronology of Site Events.

**Table 3. Chronology of Site Events**

Activity	Responsible Organization	Estimated Completion
Implement site-wide ICs	PRP	September 2017
Continue Long Term Remedial Action for OU-1	PRP	Ongoing, indefinite
Implement OU-1 O&M Work Plan beginning August 29, 2013	PRP	Ongoing, indefinite
Issue Final Close Out Report	EPA	When shallow aquifer is restored
Deletion from the NPL	EPA	When shallow aquifer is restored
Conduct Five-Year Reviews	EPA	September 2016 (and every 5 years thereafter)

Approved By:

  
Randall Chaffins, Acting Director  
Superfund Division  
EPA Region 4

9/30/14  
Date